PROSHARP®

LEADING PERFORMANCE

AS 2001- Allpro

ORIGINAL INSTRUCTIONS

Read the installation and operating instructions carefully before using the machine. Usage that is not in accordance with the instruction manual and/or disregard safety instruction, may cause injury or death, and damage the machine.

Installation instructions

1. **Unpacking and installation:**
   Open the transportation box by unscrewing the locks on both sides of the transportation box.
2. Place the machine on a steady table on a height between 80-100 cm.
3. Cut all cable ties.
4. Plug the power cord of the machine and vacuum cleaner. Place the NDT3 diamond tool to the diamond holder.
5. Use the machine in a warm, dry and well lit room.
6. The AS 2001-Allpro includes: 1 x transportation box, 1 x AS 2001-Allpro skate sharpener, 1 x Grinding wheel MA70 (mounted), 1 x diamond tool NDT3 (mounted), 1 x instruction manual, 1 x power cord, 1 x 19mm wrench, 2 x key for emergency stop.
7. After usage of the machine clean the machine and the working space properly. Push down the emergency stop button. Before transportation make sure that the grinding wheel arm is steadily locked so it can't move during transportation. Unplug the power cords. Place the machine into the transportation box and lock it.

Operation instructions:

1. When starting the machine turn the key on the emergency stop switch. All lights on the "SHARP" button will start to blink. Test the grinding wheel by pushing once the "DRESS" button. Grinding wheel should now run steadily. Push the button again and the wheel will stop. Dress the grinding wheel for desired radius of hollow (see dressing of the grinding wheel on page 9.)

Safety precautions:

WARNING! When using electric tools basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury. Read all these instructions before attempting to operate this product and save these instructions. The use of any accessory or attachment other than one recommended in this instruction manual may present a risk of personal injury.

1. Always use eye, ear and breathing protection. Always connect a vacuum cleaner to the machine to minimize dust occurring outside the machine.
2. Wear proper apparel. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
3. Do not expose the machine into rain. Do not use the machine in damp or wet locations. Keep work area well lit. Keep work area clear. Cluttered areas and benches invite injuries. Do not use the machine in the presence of flammable liquids or gases.

4. Guard against electric shock. Avoid body contact with earthed or grounded surfaces (e.g. pipes, radiators, ranges, refrigerators)

5. Keep other persons away. Do not let persons, especially children, not involved in the work touch the machine or the extension cord and keep them away from the work area. Make workshop kip proof with padlocks, master switches, or by removing starter keys. Do not overreach. Keep proper footing and balance at all times. Do not stand on the machine.

6. Never leave tool running unattended. Turn power off. Don't leave tool until it comes to a complete stop.

7. Use right tool. Do not use the tool for purpose not intended. Don't force the machine. It will do the job better and safer at the rate for which it was designed.

8. When not in use always disconnect the power cords.

9. Stay alert. Watch what you are doing, use common sense and do not operate the machine when you are tired.

10. Check damaged parts. Before further use of the machine, it should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service centre otherwise indicated in this instruction manual. Have defective switches replaced by an authorized service centre. Do not use the machine if the switch does not turn it on and off.

11. Store the machine properly in a dry locked-up place, out of reach of children.

12. Never yank the cord to disconnect it from the socket. Keep the cord away from heat, oil and sharp edges. Use proper extension cord. When tool is used outdoors, use only cords intended for outdoor use and so marked. Make sure your extension cord is in good condition. Be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

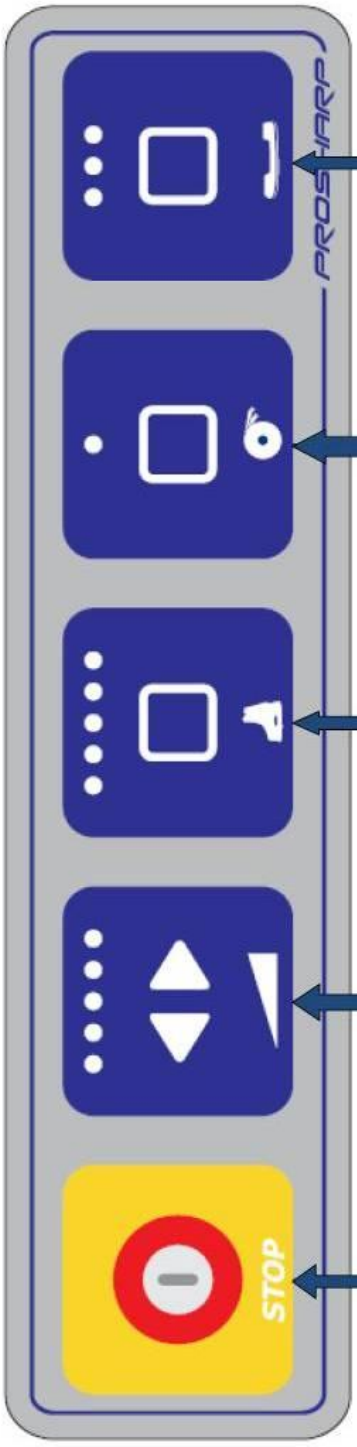
13. Avoid unintentional starting. Ensure switch is in "off" position when plugging in.

14. This electric machine should be repaired by qualified persons using original spare parts, otherwise this may result in considerable danger to the user.

15. Maintain the machine with care. Follow instruction for lubricating and changing accessories. Inspect machine cords periodically and if damaged have them repaired by an authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean and free from oil and grease.

16. Disconnect machine before servicing; when changing accessories, such as grinding wheels and diamond tools. Detailed instructions how the change the grinding wheel are on page 11 in this operation instruction manual. Other parts than those recommended by the manufacturer may present a risk of personal injury.

Control Panel Manual



EMERGENCY STOP!
Key switch.
Unlock and take away the key while usage.
Push and lock after usage.

SPEED!
Adjust the feed speed.
Move the skate-holder to dress the wheel or to drive the skate-holder to the transportation point.

SHARP!
All lights flashing = put in a skate. Lights walking 1 by 1 = ready! Always remember to put the skate in place before using the machine unless you are dressing the grinding wheel!
When sharpening 1 push is worth of 1 cycle, 2 pushes 2 cycles and so on. At 1 cycle one push will turn the skate-holder back.
At 2-5 cycles push the button once = reset.
When profiling every push (light) is worth of 5 cycles. Push again = reset. During 5 cycles 1 push will turn the skate-holder back.

DRESS!
Adjust the hollow radius towards the scale by moving the skate-holder with left/right arrows at "speed". Push the "dress" button and the grinding wheel will start to run. Wheel will stop running after 2 minutes or by pushing the button again.
When the wheel is running, you can dress the grinding wheel for the desired hollow by moving the dressing tool device back and forwards. After dressing always remember to screw the dressing tool up so that it can't touch the wheel while sharpening.

PROFILE!
Push once and the first light will start to flash.
Push "sharp" and you can see how the grinding wheel will move against the blade. (Grinding wheel is not running)
Push twice and one light will go on. Now the skate will drive between the "one point" marks on the skate-holder device.
Push 3 times and 2 lights will go on and the skate will drive between the "2 point" marks. Push 4 times = all 3 lights on and the skate will drive between the "3 point" marks. The points can be useful for example to turn the skate-holder before the toe-picks when sharpening figure skates or if you are sharpening small skates you can turn the skate-holder earlier.
When sharpening figure skates remember to calibrate the machine. See instructions from page 9.

Designation

- ProSharp AS 2001-Allpro is a skate sharpening machine and should be used only to sharpen ice skates.

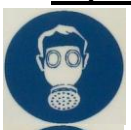
Safety Information and Recommendations

- Before using the machine check the grinding wheel for cracks. If there are cracks in the wheel (can be caused in transport), change the wheel to a new wheel before grinding.
- The skate sharpening machine AS 2001 may only be used for grinding skates.
- Only original special balanced ProSharp grinding wheels, may be used in the machine.
- When the wheel has worn down to ~5" (125mm) it must be changed.
- Change of the wheel may only be done when the main power is switched off.
- Please notice that the protective equipment, according to signs, must be used when grinding with the machine.
- Maximum speed of the grinding wheel: 4440 RPM (35 m/s)
- Capacity of the machine: 300W

Hazards

- The skate sharpening machine AS 2001- Portable is equipped with grinding tools which may cause injury.
- Children and visitors must be kept away from the machine and be at a safe distance from the working area.
- The operator must stand in front of the machine.
- The operator may never bend over- put his hands on the machine or in other way increase the risk of injury moments.
- Dangerous grinding dust comes from the machine and therefore the operator must always use eye- and mouth protection.
- Before using the machine check if there are any transport damages on the machine.

Explanation of symbols marked on the skate sharpener ProSharp AS 2001-Allpro



= **Always use mouth/breathing protection when using the skate sharpener!**

= **Always use ear protection when using the skate sharpener!**

= **Always use protective eye glasses when using the skate sharpener!**

= **Beware of electric shock!**

= **Read the original instructions carefully before using the skate sharpener!**

= **Beware of rotating grinding wheel!**

= **Never lay your hands on the machine when the sharpening procedure is on!**

Connection

- Connect tab single-phase A.C, 100-240 VAC 50-60 Hz.
- Release the emergency button.
- All lights flashing = put in a skate
- Lights are walking 1 by 1, machine is ready to sharp.
- Connect the dust-cleaners hose to the machine for automatic start of dust-cleaner when grinding. Connect dust-cleaners hose with the machines hose.

Placement

- The machine must be placed on a flat, steady workbench with a height between 80 to 100 cm.
- The working area must be well lit. Keep work area clear. Cluttered areas and benches invite injuries.

Issuing

- The noise level of the machine is less than 70 dB.
- During use of the machine, dust will occur and this dust must be taken away.
- Clean the machine between every grinding.

Engagement

- For information regarding the grinding machine the responsible operator must inform other users about safety and maintenance instruction.
- For safety reasons, modifications of the machine or its design are not allowed.

Maintenance

- The AS 2001 is manufactured for low maintenance demands.
- In your own interest and for your own safety, control and cleaning must be done before, during and after grinding.
- Remove the plug before carrying out any adjustment, servicing or maintenance.

Important!

- All operators must read and understand instructions regarding operation and maintenance contained in this manual, before using the machine.
- People under 18 years of age may NOT use the machine!
- Never move the skate-holder by hand. Only use the arrows to move the skate-holder.
- Only non-flammable vacuum cleaners should be connected to the AS 2001.

The ProSharp AS 2001- Allpro delivery includes:

- 1 Skate Sharpening Machine ProSharp AS 2001- Allpro
- 1 Grinding wheel MA70
- 1 Dressing-tool NDT3
- 7 Contouring templates
- 1 Power cord
- 1 Key for grinding wheel change, 19mm
- 2 Keys for the use of the emergency button
- 1 Transportation-box
- 1 Operating instruction manual

Technical Data

Voltage	1 x 100-240 VAC
Cycles	50-60 Hz
Power	Pmotors: 300W, Poutlet: 200W, Ptotal: 2300W
	Power outlet for the vacuum cleaner MAX 2000W
Weight	48kg (including the transportation box and detachable parts)
Length	1250 mm
Width	340 mm
Height	320 mm
Noise level	100dB

Business name and manufacturer

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Maintenance Instructions

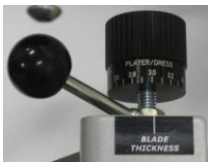
Change of the grinding wheel and all service work may only be done when the main power is switched off.

Before every grinding:	Please check that: 1. You have read and understood the safety instructions and all functions. 2. The grinding wheel is OK, dust-cleaner is connected and that the motor is running without vibrations.
After grinding:	Lock the machine and take the key away. Clean the machine from dust with the dust-cleaner and use a dry rag to clean up. Never use oil or grease. Light fleeting liquid is OK.
After 1-10 pairs:	Dress the grinding wheel.
After 200-400 pairs:	Time to change grinding-wheel (page 9). The number of pairs/wheel depends on how often you dress the wheel, type of steel etc. **For best grinding result, use only special-balanced ProSharp grinding wheels.**
After 800-1000 pairs:	Check the dressing-tool. The diamond must be pointed and even for best grinding result. Use only special-centered dressing-tool, NDT1 or NDT3, for exact dressing and best grinding-result.
After 2000-3000 pairs:	The driving-belt should be perfectly stretched, Loosen the belt-shroud (2 bolts). Check the driving-belt by starting the motor. The belt must run even and smooth. **In cause of belt-tension:** Take off the driving belt. Loosen bolts by motor-shaft (2 M8). Move the motor 2-3 mm to the right. Put the 2 M8 back. Put the driving belt back. Test run. Put the belt-shroud back. The wire that transports the skate shall be stretched. Tip the machine forward, check wire on the back. Check tension of the wire. **In cause of wire-tension:** Loosen nut in center. Lift off screw and unscrew key nut (one side). Turn the "body" of the screw 2-3 rounds, or until the wire feels tightened. Lock the key nut (one side). Put the screw back,' and lock the nut.

	Test run without grinding until there is no slippage.
After 3000-5000 pairs: (1-2 seasons)	Service should be made by an authorized service technician.

Please contact us for support about the machine!

Dressing of the grinding wheel



Picture 1.

1. When dressing the grinding wheel **always** adjust the grinding wheel sideways to **position 3.0 mm.** See Picture 1. Never put the skate in place when you are dressing the grinding wheel.

Picture 2.

2. Choose the hollow by moving the skate-holder device by using the arrows from "SPEED" so that the "pointer" points on the hollow you wish to have. See Picture 2.

Picture 3.

3. Adjust the dressing-tool by screwing it downwards so that it comes out from the dressing-tool holder approximately 10 mm. See Picture 3.

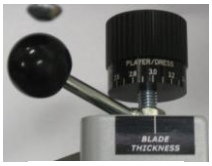
   After that adjust the grinding wheel height approximately 1 mm under the dressing-tool. See picture 3.

Picture 4.

4. Lock the grinding wheel arm. See Picture 4.
5. Adjust the dressing-tool as close as possible to the grinding wheel without making any contact.
6. Push the "DRESS" button once and the grinding wheel starts to run. It will stop automatically after 2 minutes or by pushing the button again.
7. Turn the dressing-tool back-and forwards and adjust the dressing-tool screw carefully towards the wheel until it touches the grinding wheel. Turn the dressing-tool back and forwards until the entire surface is dressed.
8. Unlock grinding wheel-arm, screw up the dressing-tool and adjust the wheel downwards.
9. Ready for grinding with the hollow you have chosen.
   For more detailed instructions how to use the electronics and adjustments please take a look at the control panel manual (Page 4.)

Grinding.

1. Check the desired hollow radius and adjust if needed. Referring to the dressing of the grinding wheel. (Page 9.)
2. Adjust the grinding wheel sideways to the right blade thickness. (Picture 5.) Always remember to measure both blades because there are sometimes differences even between the blades in the same pair! HTC-tool is perfect for this!
3. Take the skate with your left hand and put the skate in to the skate-holder so that the heel is towards the wheel and make sure that the skate lies on both rolls at a distance of min 10 mm (half an inch) from the grinding wheel. Make sure that the skate is correctly clamped. (See the picture 6.)
4. Use right hand to turn the handle to the left and make sure that the skate is in the correct position. Clamp the skate in place like in the picture 6.
5. Choose number of grinding cycles by using the “SHARP” button . 1 push is worth of 1 cycle, 2 pushes is worth of 2 cycles and so on. Machine will start after choosing the amount of cycles. Important! Never start the machine without a skate unless you are dressing the grinding wheel! Grinding is finished when the skate is in “home-position” and the motor stops. Check the result.
6. If you want to stop the grinding earlier just push the “SHARP” button again during cycles 1-5 = reset. During 1 cycle press the button once and the skate-holder will turn back. Push again and the skate-holder will turn back again.
   For more detailed instructions how to use the electronics and adjustments please take a look at the control panel manual (Page 4.)

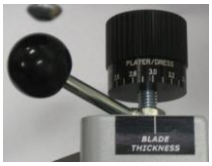


Picture 5.

Picture 6.

Grinding of figure skates

1. Check the desired hollow radius and adjust if needed. Referring to the dressing of the grinding wheel. (Page 9.)
2. Adjust the wheel sideways to the right blade thickness. See Picture 7. Always remember to measure both blades because there are sometimes differences even between the blades in the same pair! HTC-tool is perfect for this!
3. There is three different ways to sharpen figure skates:
   a. Use a special figure skate template and follow the radius profiling instructions on page 12.



Picture 7.

b. Use a flat template to set a correct height on the heel of the blade so that the grinding wheel will not make the heel rounded. Then by pressing the "SHARP" button start the grinding. Push the button again to turn the skate-holder device back just before the toe-picks of the skate. Repeat as many times as needed for the best grinding result. See also instructions of gliding surface profiling from page 11.

c. Usage of the points in the skate-holder device. First you need to make sure that you have calibrated the figure skating settings into the machine. The calibration of the figure skating settings can be done by following these instructions: First you have to clamp a skate in place. Then switch off the power of the machine. Now push both arrows down and after that put the power back on and still keep the arrows down. When "beeps" are heard from the machine and the lights starts to flash on arrows let go of the arrow buttons. Make sure that only <u>one light</u> is on in the arrow-section. If not choose it by pushing the arrows. Now push the "DRESS" button and the skate-holder device will drive back and forth several times before it will automatically stop to the home position. Now the machine is calibrated for figure skate sharpening. Follow the next points to sharpen the figure skates.

4. Clamp the skate in place so that the heel is towards the wheel and the toe picks will leave outside the grinding area by using the points in the skate-holder device. See picture 5. Make sure that the grinding wheel will not touch the blade when the skate-holder is turning back from the heel. Flat template is good tool for this, (See point 3 b). You can do it also manually by pushing the "SHARP" button once in the place where you want to turn the skate-holder device back during 1 cycle (one light).

Picture 8.

Picture 9.

5. Choose from "PROFILE" the desired grinding distance. See pictures 8 & 9 Two pushes→ one light will go on and the skate-holder will turn back from the "1 point mark". 3 pushes→ 2 lights and the skate-holder will turn back from the "2 point mark". 4 pushes→ 3 lights and the skate-holder will turn back from the "3 point mark".
6. Use right hand to turn the handle to the left and make sure that the skate is in the correct position. Do not tighten the handle more than shown in the picture.
7. Choose grinding cycles from "SHARP" Every push (light) is worth of 1 cycle.

8. Important! If you wish to reset the grinding push quickly 2 times the “SHARP” button when the skate-holder is going from left to right. When the skate-holder is moving from right to left only one push is needed for “reset”. Never start the machine without a skate unless you are dressing the grinding wheel!
9. Check the result and the skate is finished. For more detailed instructions how to use the electronics and adjustments please take a look at the electronics manual (Page 4.)

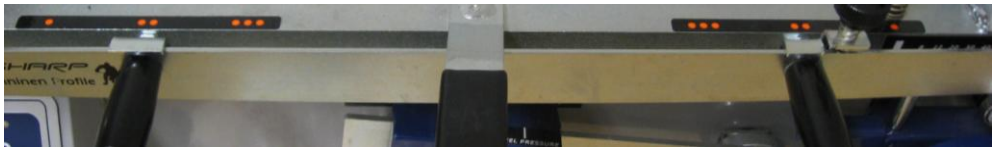
Radius and Gliding surface profiling

1. Choose radius- or gliding surface template.

2. Mark on the skate the desired middle of the ice surface contact.

3. Put the skate into the skate-holder and make sure that the skate lies on both rolls. Adjust the middle mark on the skate to be in line with the black *pivot point* on the machine.
Important: Check the thickness of the blade and the hollow radius. Also make sure that the skate-holder is centered sideways over the two rolls so that the pivot point mark is in the middle of the two rolls. The heel of the blade has to be always towards the grinding wheel.

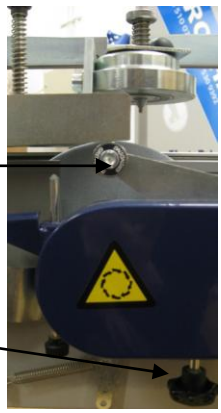
4. Put in the contouring template and make sure that the template is in the correct position and lying in the top of the guide-roll (see pictures 10 & 11). Measure the thickness of the blade and adjust the blade thickness nut to right thickness (See the picture 1). Remember to measure both blades because there are sometimes differences between the blades even in the same pair! HTC-tool is perfect for this!



Picture 10.

5. Push the “PROFILE”-button once. First yellow light will start to flash. Push the “SHARP”-button - now the skate runs without grinding. Push again and the skate-holder will turn back. Now you can see which part of the blade the machine is profiling.

6. **Gliding surface profiling.** Adjust the template guide-roll height so that the grinding-wheel just about reaches the part of the skate that you will profile and so that about 50% of the blade will be profiled. When the guide-roll is rotating the machine is not profiling. Guide-roll not rotating = profiling. When the guide-roll



Picture 11.

rotates over the whole template the skate has been profiled from the whole (chosen) length of the blade.

7. **Radius profiling.** Choose a radius template and put the template into the right position. Adjust the guide-roll so that it will profile the desired surface of the blade. At least 50% of the blade from the middle should be profiled. Follow the points 5 & 6 to see how the grinding wheel will run against the blade.

8. Choose the desired blade profiling distance by using the “points” on the skate-holder. Push the “PROFILE” button twice and one light will go on and the skate-holder will drive between the two “one point marks” in the skate-holder. Press 3 times→ 2 lights will go on and the skate-holder will drive between the two “two point marks”. Press 4 times→ 3 lights will go on and the skate-holder will drive between the “3 point marks”. If you don’t choose the distance the skate-holder will drive the whole distance from left to right.

9. Choose the profiling cycles from “SHARP” . 1 push is worth of 5 cycles, 2 pushes is worth of 10 cycles, 3 pushes = 15 cycles, 4 pushes = 20 and 5 pushes = 25 cycles. Press the button again during the profiling = reset. You can also turn the skate-holder device manually during 5 cycles (1 light) by pushing the “SHARP” button in a place where you want to turn the skate-holder back. Also when all lights are shut down you can turn the skate-holder by pushing the “SHARP” button.

10. During the profiling you can adjust the speed of the skate-holder by pushing the arrows from “SPEED” .

11. **IMPORTANT! Never unclamp the skate before the profiling is finished!**

12. Do the same operation for the other blade but make sure that the profiling will happen in the same distance than for the first blade. Remember to adjust the guide-roll height as for the first blade.

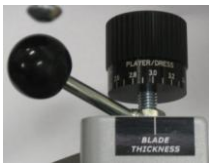
13. Take off the contouring template and adjust the guide-roll down.

14. After the both skates are profiled they need to be sharpened. First you need to dress the grinding wheel and then the blades should be sharpened at least 5-7 times (cycles) after profiling so that the turn-marks on the blades will disappear. See instructions for sharpening and for dressing of the grinding wheel from pages 9 & 10.

Change of the grinding wheel

Changing of the wheel and all service work may only be done when the main power is switched off. But before switching the power off please read these instructions.

Drive the skate-holder to the left by using the arrows at “SPEED” .
Now switch the power off.



Picture 12.

1. Adjust the wheel towards you by turning the “blade-thickness” nut 5 full rounds clockwise. See Picture 12. Now the nut is getting more accessible.
2. Loosen the grinding wheels nut and remove the grinding wheel.
3. Put in a new wheel so that the text label is towards you and tighten it moderately.
4. Adjust the wheel sideways 5 full rounds anti-clockwise to 3.0 mm.
5. **Now switch on the power. After changing the grinding wheel you have to reset the wheel size counter by pressing both arrows** **down for 3 seconds.** You will hear “beeps” from the machine and the resetting is done. Now you can drive the skate-holder back to the starting position by using the arrows and at the same time keeping the wheel-arm down by hand. See Picture 13.
6. Dress the wheel with desired hollow. See instructions for Dressing of the grinding wheel. Page 9.
7. For more detailed instructions how to use the electronics and adjustments please take a look at the control panel manual (Page 4.)

Picture 13.